AMENDMENTS TO THE SPECIFICATION

Please replace page 1, paragraph 1 with the following amended paragraph:

The present invention regards a method and system for delivering coated medical implants. More specifically, the present invention regards treating at least a portion of the surface of a medical delivery device to inhibit damage to the coating of a releasable implant delivered by the medical delivery device.

Please replace page 1, paragraph 2 with the following amended paragraph:

The positioning and deployment of medical implants is a common often-repeated procedure of modem medicine. Medical implants may be used for innumerable medical purposes including the reinforcement of recently re-enlarged lumens and the replacement of ruptured vessels. These implants may be delivered by securing them to the distal end of a delivery device, positioning the distal end of the device near a target delivery site, and then deploying the implant from the device to its desired position. The implant may be deployed by inflating the distal end of the device or through other forces that urge the implant from the device's distal end. When the implant has been coated, this coating is susceptible to being damaged or completely removed from the implant during the deployment process--an unwanted result.

Please replace page 3, paragraphs 2-3 with the following amended paragraphs:

A method ~~Method~~ and system for delivery of coated implants is provided. One embodiment encompasses a coated implant delivery system. This system includes an implant delivery device having a first end, a second end, and an inner lumen, wherein the first end has a releasable implant retention region with an accessible surface that has a coated implant adhesion-

resistant treatment.

In another embodiment, a method of deploying a coated releasable implant at a target site of a vessel using an implant delivery system is provided. This method includes inserting a portion of an implant delivery device having a releasable implant into the vessel, advancing the implant delivery device to the target site, deploying the releasable implant from the delivery device, and withdrawing the inserted portion of the implant delivery device from the vessel. The implant delivery device in this embodiment has a releasable implant retention region with an accessible surface having a coated implant adhesion-resistant treatment and wherein the releasable implant has a first coating that faces the accessible surface of the releasable implant retention region.

Please replace page 5, paragraph 4 with the following amended paragraph:

FIG. 2 provides a similar enlarged cross-section. In this cross-section, however, the implant is in the process of being deployed from the implant delivery device 14. Here, the implant ~~deliver~~ delivery device 14 is expanding, as shown by arrow 20, and urging the implant towards the target site (not shown). As the implant is urged upwards, shear forces and normal forces, represented by arrows 21, are developed between the coating 10 of the support 11 and the adhesion resistant treatment 12. Because the adhesion resistant treatment 12 creates little if any ~~static, dynamic,~~ static or dynamic friction or other adhesional forces with the coating 10, the severity of these shear and normal forces is dramatically reduced. Consequently, rather than having the coating 10 ripped from the individual supports as the implant is deployed, the coating 10 is able to slip or slide over the expanding implant retention region 13 of the implant delivery device 14 and, thus, may remain over the support 11.

Please replace page 6, paragraph 3 with the following amended paragraph:

The adhesion resistant treatment may be one of numerous available treatments. It may be a silicone applied directly to the implant retention region 13 of the implant delivery device 14. It may also be a hydrogel, a carbowax, a polyethylene oxide (PEO), a polyacrylic acid (PAA), a ~~polythlene~~ polyethylene glycol (PEG) and any other material that can significantly reduce the separating forces generated during the delivery of the implant. Alternatively, the adhesion resistant treatment may be a specific treatment performed directly on the implant retention region 13 of a delivery device 14. For example, the region may be buffed or polished to create a super slick or super smooth region that develops little if any static or dynamic frictional forces during the delivery of the implant. Moreover, in addition to resisting adhesion, the treatment may also affirmatively repel the coating of the implant. For example, should the implant coating be repelled by certain compounds, these compounds may be embedded or otherwise impregnated into or on the implant retention region 13 of the delivery device to facilitate the proper deployment of the implant.

Please replace page 6, paragraph 5 with the following amended paragraph:

This therapeutic can include pharmaceutically active compounds, nucleic acids with and without carrier vectors such as lipids, compacting agents (such as histones), virus (such as adenovirus, adeno-associated ~~adenoassociated~~ virus, retrovirus, lentivirus and a-virus), polymers, hyaluronic acid, proteins, halifuginone, cells and the like, with or without targeting sequences.

Please replace page 6, paragraph 6 continuing onto page 8 with the following amended paragraph:

Other specific examples of therapeutics used in conjunction with the present invention include, for example, pharmaceutically active compounds, proteins, cells, oligonucleotides, ribozymes, anti-sense oligonucleotides, DNA compacting agents, gene/vector systems (i.e., any

vehicle that allows for the uptake and expression of nucleic acids), nucleic acids (including, for example, recombinant nucleic acids; naked DNA, cDNA, RNA; genomic DNA, cDNA or RNA in a non-infectious vector or in a viral vector and which further may have attached peptide targeting sequences; antisense nucleic acid (RNA or DNA); and DNA chimeras which include gene sequences and encoding for ferry proteins such as membrane translocating sequences ("MTS") and herpes simplex virus 1 ("VP22")), and viral, liposomes and cationic and anionic polymers and neutral polymers that are selected from a number of types depending on the desired application. Non-limiting examples of virus vectors or vectors derived from viral sources include adenoviral vectors, herpes simplex vectors, papilloma vectors, adeno-associated vectors, retroviral vectors, and the like. Non-limiting examples of biologically active solutes include anti-thrombogenic agents such as heparin, heparin derivatives, urokinase, and PPACK (dextrophenylalanine proline arginine chloromethylketone); antioxidants such as probucol and retinoic acid; angiogenic and anti-angiogenic agents and factors; agents blocking smooth muscle cell proliferation such as rapamycin, angiopeptin, and monoclonal antibodies capable of blocking smooth muscle cell proliferation; anti-inflammatory agents such as dexamethasone, prednisolone, corticosterone, budesonide, estrogen, sulfasalazine, acetyl salicylic acid, COX-2 inhibitors, and mesalamine; calcium entry blockers such as verapamil, diltiazem and nifedipine; antineoplastic/antiproliferative/anti-mitotic agents such as paclitaxel and derivatives, 5-fluorouracil, methotrexate, doxorubicin, daunorubicin, cyclosporine, cisplatin, vinblastine, vincristine, epothilones, endostatin, angiostatin and thymidine kinase inhibitors; antimicrobials such as triclosan, cephalosporins, aminoglycosides, and nitrofurantoin ~~nitorfurantoin~~; anesthetic agents such as lidocaine, bupivacaine, and ropivacaine; nitric oxide (NO) donors such as linsidomine ~~lisidomine~~, molsidomine, L-arginine, NO-protein adducts, NO-carbohydrate adducts, polymeric or oligomeric NO adducts; anti-coagulants such as D-Phe-Pro-Arg chloromethyl ketone, an RGD peptide-containing compound, heparin, antithrombin compounds, platelet receptor antagonists, anti-thrombin antibodies, anti-platelet receptor antibodies, enoxaparin, hirudin, ~~Warafin~~ Warfarin sodium, Dicumarol, aspirin, prostaglandin inhibitors, platelet inhibitors and tick antiplatelet factors; vascular cell growth promoters ~~promotors~~ such as growth factors, growth factor receptor antagonists, transcriptional activators, and translational promoters ~~promotors~~; vascular cell growth inhibitors such as growth factor inhibitors, growth

factor receptor antagonists, transcriptional repressors, translational repressors, replication inhibitors, inhibitory antibodies, antibodies directed against growth factors, bifunctional molecules consisting of a growth factor and a cytotoxin, bifunctional molecules consisting of an antibody and a cytotoxin; cholesterol-lowering agents; vasodilating agents; agents which interfere with ~~endogeneus~~ endogenous vasoactive ~~vascoactive~~ mechanisms; survival genes which protect against cell death, such as anti-apoptotic Bcl-2 family factors and Akt kinase; and combinations thereof. Cells can be of human origin (autologous or allogenic) or from an animal source (xenogeneic), genetically engineered if desired to deliver proteins of interest at the injection site. The delivery mediated is formulated as needed to maintain cell function and viability. Any modifications are routinely made by one skilled in the art.

Please replace page 10, paragraph 1 with the following amended paragraph:

FIG. 6 is a side view of the entire stent delivery system. Here, the stent 51 is mounted in the implant retention region 40 of the implant delivery device 42. In use, the implant delivery device 42 may be guided down a lumen of the body and positioned near a target site of the body. Then, after being properly positioned by a practitioner performing the procedure, the balloon tip 43, having an implant retention region 40, may be expanded to expand and stretch the stent 51 to permit it to become lodged in the lumen in order to begin to provide support to the lumen. Once deployed, with its coating intact, substantially due to the adhesion resistant treatment 41, the catheter 42 may be removed from the target area.

Please replace page 10, paragraphs 3-4 with the following amended paragraphs:

FIGS. 8-10 present a sequential deployment sequence of an expandable stent in accord with another alternative embodiment of the present invention. In this embodiment a stent 83 is sought to be deployed within a target site 86. Visible in FIG. 8 are an endoscope 87, an implant delivery device 85, an implant retention region 80, stent 83, a stent coating 82, an insertion coating 84, and a coated implant adhesion resistant treatment 81 ~~82~~.

After positioning the distal end of an endoscope 87 near the desired target site 86 the delivery system is urged from the endoscope into the targeted site 86. Here, the most distal tip of the delivery device 85 is treated with a coating to facilitate its smooth insertion through the endoscope 87 and into the target site 86. Once deployed, the device will be inflated as shown in FIG. 9 and will then be removed from the target area as shown ~~shown~~ in FIG. 10. As can be seen in FIG. 10, the coating on the implant has remained on the inside and outside surface of the stent 83 and was not errantly removed during the inflation of the retention region or the deployment of the stent 83. In addition to treating the distal tip of the endoscope 87, the tube-like longitudinal walls of the delivery device may also be coated to further assist the movement of the device 85 through the endoscope 87.

Please replace page 11, paragraphs 1-3 with the following amended paragraphs:

FIGS. 11-14 provide yet another alternative embodiment of the present invention. FIG. 11 illustrates a delivery device 110 having an implant retention region 112 that has been treated with a treatment 111.

FIG. 12 illustrates a stent graft 121 employed in this embodiment. Stent grafts generally may be employed in various regions of the body. They may be used as a bridge for ruptured or dilated vessels. Like the stents described above, they may be coated, and like the stents above, this coating is susceptible to being stripped ~~striped~~ away during its delivery. Thus, in this embodiment, the retention region 112 of the delivery device has been treated with an adhesion resistant treatment 111 to resist adhesion between it and the coating of the stent graft 121.

FIG. 14, a cross-section taken along line 14-14 of FIG. 13, clearly shows the interface between the coating 120 of the stent graft 121 and the adhesion resistant treatment 111 of the delivery device 110. In use, like the above embodiments, this coating 120 will more likely remain and not be ~~striped~~ stripped or otherwise removed from the implant due to its interface with the adhesion resistant treatment 111.

Please replace page 11, paragraph 5 through page 12, paragraph 3 with the following amended paragraphs:

Illustrated in FIGS. 15 and 16 are the delivery device 154 ~~150~~, an internal plunger 150 ~~151~~, an ~~undeployed~~ aneurysm coil 152, ~~a deployed aneurysm coil 162,~~ and a coating 153. Rather than treating the outside of the delivery device as in the other embodiments, the inside the delivery device 154 is treated with an adhesion resistant treatment 155. Like the other embodiments, however, this accessible treatment reduces the risk of tearing or otherwise removing the coating from the implant before and after its deployment. In this embodiment the implant coating 153 is shown on the aneurysm coil 152 while the coil is straight and within the delivery device 154 and after it is deployed and has curled in reaction to the temperature of its new surroundings. By treating the delivery device 154, the coating 153 can remain intact and be available to treat the ailing lumen in contact with the coil 152.

FIG. 17 provides a side view of an implant delivery system in accord with another alternative embodiment of the present invention. In FIG. 17 the distal end of a delivery device 172 is shown having an expandable stent 171 on its implant retention region 173 as well as two caps or SOX 170 which are positioned and placed to retain the stent 171 in place during the positioning of the distal end of the device near the target site. By placing and locking these caps or SOX 170 on the delivery device 172 the stent 171 may be locked in place and not placed at risk of becoming deployed prematurely, prior to the final positioning of the distal end of the delivery device 172. Once positioned, the ~~deliver~~ delivery device 172 may be expanded without severe constraint from these SOX which may either tear away or simply fall off when the implant retention region 173 begins to expand.

A method ~~Method~~ and system for delivery of coated implants is provided. The above-described ~~embodiment~~ embodiments are illustrative examples of the present invention. As will be evident to one of skill in the art modifications to these embodiments as well as entirely new embodiments are plausible without departing from the spirit and scope of the present invention.